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Rodent-borne Disease Surveillance at US Military Training Sites Near the Demilitarized Zone, Republic of Korea

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Background: Korean hemorrhagic fever (KHF) is a disease caused by a rodent-borne hantavirus found throughout northeastern Asia while scrub typhus is a mite-borne disease found throughout much of tropical/subtropical Asia and the Pacific Islands. The primary reservoir for KHF and scrub typhus is the striped field mouse, *Apodemus agrarius*.

Methods: During the five-year rodent surveillance program, genomic sequencing was used to characterize the hantaviruses isolated from selected sites and these data were correlated with human hantavirus-infected case studies that demonstrated incubation periods of >25 days. Additionally, scrub typhus rates in rodents were determined and data for human cases obtained from the Korea Center for Disease Control and Prevention.

Results: Hantavirus infected human cases exhibit a minor peak during May/June and a major peak during September through December while seasonal rates in rodents were variable. The minor peak occurred when gravid females comprised just over 4% of the population, while the major peak occurred when gravid females exceeded 27% of the population. Scrub typhus rates were relatively stable over the 5-year surveillance program, with rates in the Korean population increasing from 2,556 human cases in 2001 to 6,756 human cases in 2005. The large increase in reported numbers is a result of government policy governing the dispensing of antibiotics without a prescription and an improved disease reporting system. While no US soldiers have been clinically diagnosed with scrub typhus in the past 10 years, some have presented with typical eschars. In addition, ELISA tests used for diagnosis fail to detect positives until 30 days after symptoms occur. Post deployment surveillance of US soldiers that were deployed to Korea showed that approximately 4% were seropositive for scrub typhus.

Conclusion: These surveillance data support the development of mitigation strategies for these diseases, e.g., habitat modification, dust reduction policies, and modifications of soldier activities.

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Survey for the Presence of Human Herpesvirus 8 (HHV-8) Infection in Mozambique

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Background: Human herpesvirus 8 (HHV-8) is the etiological agent of Kaposi's sarcoma (KS), and is endemic in some parts of sub-Saharan. The incidence of KS varies across Africa, and in many countries started after HIV epidemic. Several factors could account for KS incidence, but this incidence is correlated with HHV-8 prevalence.

Objectives: The present study aimed to determine for the first time the HHV-8-seroprevalence in Mozambique (MZ), a country which is experiencing an epidemic of AIDS, and which is surrounded by KS endemic countries.

Methods: Blood samples were collected on filter paper from 189 individuals of Hospital Central de Maputo, MZ: 57 students of medicine school, 31 individuals from the staff, 67 patients in ambulatorial assistance at Dermatology Department, and 57 hospitalized patients from Dermatology Unit. All participants answered a questionnaire and signed the informed consent before blood collection. Latent and lytic HHV-8 antibodies were searched in sera using "in-house" indirect immunofluorescence assays, at Instituto Adolfo Lutz, São Paulo, Brazil. The study was approved by the ethics committees of institutions, and by the governments of MZ and Brazil.

Results: HHV-8-seropositivities of 1.8% and 9.7% respectively, were detected among students and staff, in contrast to 16.4% detected among patients in ambulatorial assistance. Concerning hospitalized patients, 47.1% resulted HHV-8-seropositive; 85.7% in KS patients. Half of KS patients were HIV-1-infected. The low number of individuals in each group analyzed joined to differences in socio-demographic characteristics of individuals do not allowed statistical analysis of results.

Conclusions: Great variation in HHV-8 frequencies of infection was detected in Maputo (South of MZ), with low prevalences among healthy individuals. This result suggests that Maputo is not an endemic area of HHV-8. Nevertheless, another study is in progress to confirm these data, now analyzing individuals of different risk-factors and from other regions of MZ.

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